

**House Economic Growth Committee
Tuesday, January 24, 2006
Remarks of Michael Gartner
President, Board of Regents, State of Iowa**

Thank you.

It is nice of you to invite me here again. I always enjoy being with you, and I admire the time and effort you put in on behalf of Iowa and its people.

If I may, before you ask questions I'd like to tell you a bit about the three state universities and economic development. The brainpower at the universities, the creativity, the inventiveness and the entrepreneurial spirit are second to none. Some of the past successes are widely known – the invention of the computer by Professor John Atanasoff and graduate student Clifford Berry at Iowa State University more than 60 years ago; the work done generations ago by such great scientists as George Washington Carver and Henry Wallace at Iowa State; the development of what became Bufferin and Roloids in the labs at the University of Iowa; the development and patenting of the algorithm that compressed data and enabled the use of the fax machine – a development by an ISU graduate student in 1972. The list is truly impressive.

Yet there remains a myth – and it is indeed just a myth – that the universities today are full of ivory-tower thinkers and researchers who live in their own little worlds and don't understand the real world the rest of us live in. It goes further: Many in the business community think the universities and their researchers and administrators and professors don't understand economic development – and don't participate in it.

I don't know how this myth got started, but I hear it everywhere – from legislators, from business people, from state officials.

But nothing could be further from the truth.

The main role of the universities, of course, is to teach, to prepare students for a productive life as good people and good citizens. But universities have other roles as well: to participate in the state's diverse cultural and intellectual life, to be good employers, to be good citizens – and to participate in the economic development of Iowa.

The universities are doing fine jobs in all these areas. But I want to tell you specifically what they are doing in economic development – for there is a perception that they aren't doing much.

Let's take Iowa State as an example:

- In 2003, the Association of University Technology Managers surveyed 165 United States universities. Iowa State was ranked second in the number of licenses issued to businesses and options executed by businesses for university-developed technology – even though Iowa State ranked fifty-fifth in research expenditures. ISU ranked third in licenses yielding income.
- Over the past 10 years, Iowa State has licensed 472 different technologies and filed for 487 patents – of which 359 have been issued.
- Since 1995, forty-seven start-up companies have been formed through licenses from ISU-affiliated operations – the Iowa State University Research Foundation and the Office of Intellectual Property and Technology Transfer. Of those 47, thirty-five were based in Iowa, and half of those are still active.
- As of June 30, Iowa State had 155 active licenses and option agreements for technologies – excluding plant varieties. Of those, fifty-six – or more than a third – are with Iowa companies.
- In calendar 2004, sales of ISU-licensed products by Iowa companies totaled \$22 million.

Economic development has been central to the mission of the Virtual Reality Applications Center since it was established at ISU in 1990. The same can be said of the Iowa Center for Emerging Technologies, which was the Virtual Reality Center's predecessor and which was started in the 1980s with seed funding from the Roy J. Carver Charitable Trust. Its mission was to conduct applied interdisciplinary research to bolster the competitiveness of regional and national manufacturers. The successes have been wonderful. The most well-known is probably Engineering Animation, Inc., which had over 1,000 employees by the time it was acquired by an information-technology giant in 2000. It still has a branch in Ames, and it has spun out some progeny, including three companies based in Ames – Demonstratives Inc., I-Med Studio, and ProPlanner, Inc. Similarly, using knowledge they learned doing research at the center, ISU graduate students founded Mechdyne Corporation, based in Marshalltown, to develop large-scale visualization systems. In 2003, Mechdyne acquired its largest competitor, Fakespace Systems, to become the world's largest provider of large-scale visualization systems, software and services. Fakespace Systems remains headquartered in Marshalltown, with offices worldwide and more than 150 employees. Finally, the Virtual Reality Applications Center plays an important role in bolstering the competitiveness of existing companies. For example, it has partnered with Deere & Company to identify, propose and conduct research to enhance product development and manufacturing processes by applying virtual reality technologies. Deere now funds \$800,000 a year in projects at the center – and, significantly, regularly hires ISU graduates.

Couple this with the ISU Research Park. Established in 1987, it now has more than 40 tenant companies and university centers and employs more than 800 people. The employers there have a combined payroll of more than \$35 million, spend another \$17 million or so for goods and services. The average wage is around \$40,000.

The work being done at the Research Park and in the buildings and laboratories at Iowa State has a significant impact on the present and future economies of Iowa. It is the same at the University of Iowa and even at the University of Northern Iowa, which is not a research university. UNI has received sixteen patents in the past six years and has six license agreements, all with Iowa-based companies. The UNI Foundation even has an equity stake in two companies that use UNI-based technology.

The University of Iowa has recently formed the UI Centers for Enterprise – which bring together organizations that engage primarily in commercialization or entrepreneurial education. These include the university's Research Foundation, the Technology Innovation Center, the Oakdale Research Park, the Small Business Development Center, and the John Pappajohn Entrepreneurial Center.

At Iowa, these efforts include:

- Thirty-eight active start-up companies associated with the research park and the technology center employing 1,248 people with an average salary of \$57,000 and a labor shed encompassing 20 percent of the state.
- Twenty-four active start-up companies created through licensing of UI technologies. One, Integrated DNA Technologies, Inc., is the largest Iowa biotech startup with 306 employees.
- Four-hundred thirty-five patents awarded since 1987 and the issuance of 456 licenses or options, with cumulative licensing revenue of \$65 million.

I should note that seventy percent of the invention disclosures at Iowa are from the College of Medicine. I spent an afternoon there recently, and they are on the brink of truly exciting discoveries – particularly in the work relating to macular degeneration.

The University of Iowa ranks fourth in the 11-member Big 10 in license and royalty revenue. In a 2004 Chronicle of Higher Education Survey of 165 institutions, the University of Iowa ranked twenty-first in licensing revenues and patent activity.

I tell you this today just so you have the facts about universities and economic development. There is increasing emphasis on this, which is good, and there is increasing money being made available for economic development by

the universities, which also is good. The Board of Regents has an exceptionally strong economic-development committee chaired by Regent Ruth Harkin, who has a long and successful career in business, and including two of Iowa's most successful business leaders, Teresa Wahler, the president and chief operating officer of Mid-America Group, and Tom Bedell, chairman of Pure Fishing, as well as the very bright and very able student Regent, Jenny Rokes.

I mentioned some of the famous successes of the past, which are well-known. But what isn't so well-known is that new successes are occurring regularly. In 1996, Iowa State patented a lead-free solder. This technology has been licensed to many companies throughout the world, including one in Iowa. Providing a solder alloy free of lead to the marketplace solves a potentially serious environmental problem by eliminating the release of this toxic element into the environment. This technology has been very successful and in fiscal 2005 produced the largest revenue stream of any invention licensed by the Iowa State University Research Foundation. And that stream will grow.

Similarly, at the University of Iowa Dr. Mark Stinski, the Distinguished Professor of Microbial Virology, in 1994 invented a new method to treat cancer and other diseases. That discovery has provided \$46 million to the university since it was marketed and, according to a colleague, has "transformed the modern approach to vaccines and therapeutics." A more recent discovery – in 2003 and dealing with lung cancer – has already provided \$9 million in revenues to the university.

And you know, of course, that it was a University of Iowa College of Education professor who co-founded the American College Testing Program, now called ACT, Inc. which every high-school senior is familiar with. That company today employs more than 1,000 people at its Iowa City headquarters. Fifty years ago, that professor, E. F. Lindquist, the director of the university's Testing Programs, also founded the Measurement Research Center, a private, non-profit test-scoring center that became the foundation for what is known today as Pearson Government Solutions. That company now has three locations in the Technology Corridor employing more than 1,600 Iowans and 3,000 people worldwide.

Besides the work on macular degeneration at the University of Iowa – work that could develop into a billion-dollar market – the university experts also are far along the line in developing a glucose breathalyzer for the consumer diabetes market, a \$100 million market. An option agreement was signed in November and an Iowa start-up company is being explored. I should note that an option agreement also has been signed for the macular degeneration effort and university officials are working on a license. That is with an East Coast company that would start a research-and-development division in Iowa. At the same time, university officials are working with local entrepreneurs for a faculty-based start-

up company – to be in Iowa – that provides a software automation system for private aviation.

You'll notice, I hope, that I have tried to emphasize here not only the great skills and ventures of the universities but also to emphasize the close connection of the economic development efforts to Iowa and Iowans. Always, we prefer to license great new developments in Iowa, and we emphasize that to the universities. Sometimes, of course, that isn't possible, but I want to assure you that we all prefer to work with Iowa companies.

All of this takes money as well as creativity, of course, and that money comes from many sources. Some comes from general university appropriations. Some comes from federal grants. Some comes from private gifts and grants. And, fortunately, in the past couple of years Governor Vilsack and the Iowa legislature have been proposing and earmarking funds for economic development. Last year, that total was about \$7 million, and soon we will provide both the Department of Economic Development and the Legislature with an audit of how that money is being spent.

This year, the governor has proposed adding \$20 million – actually, \$50 million over three years – to the Regents budgets to help move along toward the potential outlined in the Battelle Report, which the Legislature, the Department of Economic Development, and the Regents commissioned, under Gov. Vilsack's direction, in 2003 to lay out Iowa's opportunities and challenges for, among other things, realizing the state's bioscience potential. If it is appropriated – and let me add a plea to you right here to appropriate that money – if it is appropriated the Board of Regents would use it several ways:

- We would use some to fund chairs and raise salaries – as the Battelle Report urges – in the critical areas that already set us apart from other universities and in which we must maintain our lead and build on our strengths.
- We would work closely with our friends at the Department of Economic Development and in the Bioscience Alliance to ensure that we are using the best practices to maximize the impact to the universities – and to Iowa and society – to implement the commercialization of new technologies developed at the universities. Along those lines, we would ask the Department of Economic Development to help us set up a joint committee to work with the universities to ensure not only that those best practices are implemented and not only that the projects with the most potential are funded but also that Iowa companies and would-be Iowa companies have opportunities to partner with the universities to capitalize on the inventions. I learned in my five years as chairman of Vision Iowa that the most effective projects are those where there are great partnerships – partnerships among governments

and private enterprise and public and private citizens and educators and all other elements in a community – and it is no different with our universities. The partnerships that these universities have developed – with their communities, with community colleges, with other universities, and especially with Iowa's businesses – are vital, and they are needed in the area of economic development just as in every other area. Indeed, Regent Tom Bedell, who endowed the Bedell Entrepreneurship Learning Laboratory at the Pappajohn Center at Iowa, is working closely with university people, people at Lakeside Labs in the Iowa Lakes region, and business leaders in the Okoboji area, to aid and encourage – and finance – young Iowa entrepreneurs to establish businesses in northern Iowa. Fortunately, this state is blessed with a strong Department of Economic Development and its able board as well as with the many brilliant minds on the Bioscience Alliance. We hope to tap into those minds, formally and informally, so we can wisely spend this money that we hope you will appropriate to us.

Perhaps I have gone into more detail today than you wanted, but as I have traveled around the state I have come to believe there is a lack of understanding of the size and importance of the role of Regents universities in the economic development of the state.

But, in fact, just as the universities play a huge and vital role in the educational, the cultural, the athletic, the intellectual, the governmental and the civic aspects of life in Iowa, so do they play a huge and vital role in the state's economic development. And the Board of Regents and the leaders of the three fine Regents universities are committed to ensure that that role will only grow in the years ahead.

I have one other thing to add: Opening Day is April 6. Game time is 3 p.m. Good tickets are still available.

Thank you for inviting me here today.